

Article

Cribb, C.F., Keko, M., Creveling, S., et al. (2023). Mental health, physical activity, and sports among children with cerebral palsy. *Child Care, Health and Development*, 1-8. DOI: 10.1111/cch.13122

Adaptive Sports/Recreation Topic Categories

- Physical Activity
- Sport
- Healthcare Access

Study Type: Retrospective study

Summary

Children with cerebral palsy (CP) may be at greater risk of mental health disorders. Participation in physical activity (PA) and sports may be a 'protective factor' due the many benefits associated with being active. The association between participation in daily PA and sports and mental health among children with CP has been infrequently examined. The purpose of this study was to understand the relationship between mental health disorders and participation in PA and sports; and also the relationship between the ability to access mental health care and participation in PA and sports. These relationships were compared to those of typically developing peers.

Participants were children with CP (n= 458) and typically developing peers (TDC) (n= 40091) aged 6-17 years. Data was collected from the National Survey of Children's Health in America from 2016 to 2020. (mail and online surveys). The parent-report survey's question on participation asked "During the past week, how many days did this child exercise, play a sport, or participate in PA for at least 60 minutes? Options: 0, 1-3 days, 4-6 days, 7 days. Mental health questions asked for mental health disorders including anxiety, depressions, behavioural disorders and attention-deficit/hyperactivity disorder (ADHD) were: 'Has a doctor or other health care provider EVER told you that this child has: name of the condition?' If yes, 'During the past 12 months, has this child received any treatment or counselling from a mental health professional, age 3-17 years?' Multivariate binary logistic regression was used to determine associations between the presence of CP, daily PA, sport participation and the mental health outcome variables.

Children with CP had a higher incidence of mental health disorders, receipt of mental health care service, living in poverty, and lower proportion of days participating in PA or attending sport compared to typically developing peers. Almost 76% of children with CP had a mental health disorder, yet only up 21.5% received mental health care. There was no significant difference between daily PA between both groups- only 17.1% of children with CP and 20.7% of typically developing children met the World Health Organization's recommendation of daily PA. When controlling for age, sex, ethnicity and poverty level, children with CP who participated in sport and/or daily PA had a lower incidence of mental health conditions.

This study highlights a strong link between children with CP and TDC who **are** active in sports or PA having a **lower incidence** of mental health disorders including anxiety, depression, behavioural disorders and ADHD than those inactive. Participation in PA and sports may be protective of mental health conditions. However, the low percentage of those

participating in daily PA, increased incidence of having a mental health disorder, and a disproportionate lack of receipt mental health care services for children with CP are concerning.

Article Strengths

- Data is from a national survey with a large cohort of children with CP and extensive cohort of their peers
- Authors implemented recommendations from past studies strengthening the current results e.g., social factors (age, sex, ethnicity and federal poverty level) related to mental health and PA participation were controlled for
- Inclusive of anxiety, depression, behavioural disorders and ADHD
- Data is inclusive of PA **and** sports which is important for children with CP who may participate in PA but not play sports
- Demonstrates an important link between PA and sports to mental health
- Highlights disparity between children with CP and their peers in mental health incidence and support received
- Highlights need for increased mental health services for children with CP

Article Weaknesses

- Survey data is limited to American data from the National Survey of Children's Health. Caution is advised in translation of service provision to other countries due to differences in health systems
- Unable to determine geographical differences in mental health incidence and health care provision which may be useful for models of care.
- Parent reported data may underestimate true mental health incidence
- Mental health was broadly defined and may vary between parents and health providers
- Differences in what is considered treatment may exist between parents and geographically
- Physical activity reporting was retrospective, based on an attendance scale, and did not include intensity. Translation to information regarding guidelines cannot be made e.g., time spent at moderate to vigorous intensity levels, sedentary behaviour when not active. Interpretation of the question may have led to underestimation of time spent active if not completed continuously e.g., parents may not have accounted for bouts of activity throughout the day accumulating 60 minutes
- CP specific data was not collected as part of the survey therefore incidence based on CP specific classifications such as gross motor function cannot be made
- No control for additional co-morbidities

Take Home Messages

- Mental health - inclusive of anxiety, depression, behavioural disorders and ADHD – is a significant health concern in children with CP
- Mental health services are inadequate for children with CP and the disparity needs addressing. The disparity is greatest for children living in the lowest socioeconomic status.
- All children with CP should be encouraged to participate in PA – this can be at any level (social to competitive), in leisure, recreation, or sports.

Impacts on Clinical Practice

- Mental health and PA/sports should be considered and discussed in conjunction with children with CP and their families, and from an early age
- Parents, educators and community workers (e.g., coaches, teachers, support workers) should be informed of the strong link between mental health and being active, be aware of signs and symptoms, and seek help early. Training should include both promotion of PA participation and mental health awareness.